

STRATEGIC PLAN
FOR THE RESTRUCTURED
U.S. FUSION ENERGY SCIENCES PROGRAM

**Office of Fusion Energy Sciences
Office of Energy Research
U.S. Department of Energy**

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Executive Summary

This plan reflects a transition to a restructured fusion program, with a change in focus from an energy technology development program to a fusion energy sciences program.

Since the energy crisis of the early 1970s, the U.S. fusion program has presented itself as a goal-oriented fusion energy development program, with milestones that required rapidly increasing budgets. The Energy Policy Act of 1992 also called for a goal-oriented development program consistent with the Department's planning. Actual funding levels, however, have forced a premature narrowing of the program to the tokamak approach. By 1995, with no clear, immediate need driving the schedule for developing fusion energy and with enormous pressure to reduce discretionary spending, Congress cut fusion program funding for FY 1996 by one-third and called for a major restructuring of the program.

Based on the recommendations of the Fusion Energy Advisory Committee (FEAC), the Department has decided to pursue a program that concentrates on world-class fusion science, with innovation in all areas of fusion research, on world-class plasma science, and on maintaining an involvement in fusion energy science through international collaboration.

At the same time, the Japanese and Europeans, with energy situations different from ours, are continuing with their goal-oriented fusion programs. Collaboration with them provides a highly leveraged means of continued involvement in fusion energy science and technology, especially through participation in the engineering and design activities of the International Thermonuclear Experimental Reactor program, ITER.

This restructured fusion energy sciences program, with its focus on fundamental fusion science and technology, may well provide insights that lead to more attractive fusion power plants, and will make use of the scientific infrastructure that will allow the United States to launch a fusion energy development program at some future date.

The Conference Report accompanying the FY 1996 Energy and Water Development Appropriations Act provided guidance on the need for the fusion program to restructure its strategy, content, and near-to-medium term objectives. It instructed the Department of Energy (DOE), with the participation of the fusion community and FEAC, to prepare a strategic plan to implement such a restructured program at a constant level of effort for the next several years. This Strategic Plan responds to the congressional guidance. In this Plan, DOE endorses the new mission and policy